

CLAIMS

1. A device comprising:
a refrigerant fluid line comprising a refrigerant fluid inlet, a refrigerant fluid heat exchange
5 section, a refrigerant fluid state sensor, and a refrigerant fluid outlet; and
a water line comprising a water inlet, a controllable water flow valve, a water heat
exchange section, and a water outlet, wherein the water heat exchange section and
the refrigerant fluid heat exchange section are in heat exchange relationship;
wherein the refrigerant fluid state sensor and the controllable water flow valve are
10 connected so that the water flow valve increases water flow when a sensed
refrigerant fluid state rises and the water flow valve reduces water flow when the
sensed refrigerant fluid state drops.
2. The device of claim 1 wherein the water flow valve increases water flow
15 when a sensed refrigerant fluid state rises above a first threshold value and
the water flow valve reduces water flow when the sensed refrigerant fluid
state drops below a second threshold value.
3. The device of claim 1 wherein a flow of refrigerant in the refrigerant fluid
20 heat exchange section has the same direction as a flow of water in the water
heat exchange section.
4. The device of claim 1 wherein the refrigerant fluid state sensor is
25 positioned downstream from the refrigerant fluid heat exchange section.

5. The device of claim 1 wherein the refrigerant fluid state sensor provides an on/off output.
6. The device of claim 1 wherein the water flow valve comprises a solenoid valve.
7. The device of claim 1 further comprising a warning indicator.
8. The device of claim 1 wherein the warning indicator is a light.
9. A method comprising:
receiving into a device a refrigerant fluid from a high-pressure portion of a refrigeration system, wherein the device is external to the refrigeration system;
passing the received refrigerant fluid through a water-cooled condenser in the device;
sensing in the device a state of the refrigerant fluid downstream from the water-cooled condenser in the device;
increasing a flow of water through the water-cooled condenser in the device if the sensed state of the refrigerant fluid rises;
decreasing the flow of water through the water-cooled condenser in the device if the sensed state of the refrigerant fluid drops;
returning the refrigerant fluid from the device to the high-pressure portion of the refrigeration system.
10. The method of claim 9 wherein the refrigerant fluid is received from the high-pressure portion of the refrigeration system downstream from an air-cooled condenser in the refrigeration system.

11. The method of claim 9 wherein the refrigerant fluid is returned to the high-pressure portion of the refrigeration system upstream from a receiver in the refrigeration system.
- 5 12. The method of claim 9 wherein the flow of water through the water-cooled condenser is increased from OFF to ON when the sensed state of the refrigerant fluid rises above a first predetermined threshold value.
- 10 13. The method of claim 9 further comprising activating a warning indicator when the sensed state of the refrigerant fluid rises.
14. The method of claim 9 wherein the flow of water through the water-cooled condenser is decreased from ON to OFF when the sensed state of the refrigerant fluid drops below a second predetermined threshold value.
- 15 15. The method of claim 9 further comprising activating a warning indicator when the sensed state of the refrigerant fluid rises.
- 20 16. The method of claim 9 wherein the received refrigerant fluid is passed through the water-cooled condenser in the device such that the water and refrigerant fluid have the same flow directions in the condenser.